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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/970,472	10/03/2001	Michael Sugarman	6053/CMP/CMP/RKK	1155

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APPLIED MATERIALS, INC.
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EXAMINER	
COLE, LAURA C	
ART UNIT	PAPER NUMBER
1744	

DATE MAILED: 05/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/970,472	SUGARMAN, MICHAEL
	Examiner	Art Unit
	Laura C Cole	1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 6-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3 and 6-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being obvious over Redeker et al., USPN 6,523,553 in view of Konishi et al., USPN 6,385,805, in further view of Moinpour et al., USPN 6,334,229.

The applied reference has a common assignee (Redeker et al.) with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned

by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Redeker et al. disclose the claimed invention including a plurality of rollers adapted to support a substrate in a vertical position along a radius or diameter (15a-c), a scrubber brush (21) adapted to contact a substrate supported by the rollers, and a nozzle (23) positioned at an elevation below the scrubber brush (Figure 1) so to output spray to a beveled edge (Column 1 Lines 6-59). The fluid is directed off the substrate (Column 4 Lines 40-47). The scrubber is sponge-like (Column 4 Lines 26-31). The spray contacts the edge at a position between the plurality of rollers (Figure 1). Redeker et al. does not disclose that the spray nozzle is a sonic nozzle and that the nozzle is angled to direct the fluid spray away from the scrubber brush.

Konishi et al. disclose a scrubbing apparatus that comprises a plurality of rollers that support a substrate in a horizontal position (22), a scrubber brush (31, 32), and a sonic nozzle (41). Konishi et al. teach that a sonic nozzle is beneficial for scrubbing the surface of a substrate since it penetrates into a small gap with ease and is able to clean a substrate thoroughly, where a brush cannot contact (Column 2 Lines 13-21).

Moinpour et al. disclose an apparatus that cleans the edges of substrates with water jets (see Figures) that are specifically for cleaning the edges of the substrate (Abstract, Column 4 Lines 24-35) and it is stated that the water from the nozzles can carry particles away at a "sufficient pressure" to cause the removal of particles. These nozzles are angled to direct the fluid away from the scrubber brush (see Particularly Figure 3).

It would have been obvious for one of ordinary skill in the art to modify the apparatus of Redeker et al. and use a sonic nozzle such as Konishi et al. teach so that the beveled edge of a substrate is more thoroughly cleaned. Further it would have been obvious for one of ordinary skill in the art to modify the nozzles of Redeker and Konishi so that the nozzle is angled to direct the fluid spray away from the scrubber brush, as Moinpour et al. demonstrate, in order to specifically clean the edges of a substrate.

2. Claims 1-3 and 7-9 are rejected under 35 U.S.C. 103(a) as being obvious over Stephens et al., USPN 5,875,507 in view of Fishkin et al., USPN 6,202,658, in further view of Moinpour et al., USPN 6,334,229.

The applied reference (Fishkin et al.) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the

reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Stephens et al. disclose the claimed invention including a plurality of rollers adapted to support a substrate in a vertical orientation along a diameter or radius (32, 34), a scrubber brush adapted to contact a substrate (26, 28), and a nozzle at an elevation below that of the scrubber brush (57,59) adapted to spray fluid to a beveled edge or major surface of a substrate (see Figure 6). The fluid of Stephens et al. is directed off the substrate by gravity (Abstract, Lines 8-10). The scrubber brush is made of PVA foam, which is sponge-like (Column 3 Lines 16-21). Stephens et al. do not disclose that the nozzle is sonic.

Fishkin et al. comprise a plurality of rollers adapted to support a substrate in a vertical orientation along a diameter and radius (55a-cl; Figure 5), a scrubber brush adapted to contact a substrate (51a,b), and a sonic nozzle in order provide superior edge cleaning with minimal cleaning fluid, and for part longevity (Column 2 Line 47 to Column 3 Line 9). See particularly Figure 5, described in Column 5 Line 11 to Column 6 Line 35 (this embodiment shows the claimed invention, however the nozzles are positioned above the scrubber brush). The nozzle(s) of Fishkin et al. further in Figures 4A-4c and 5 further display that the nozzles are intended to clean the edge portion of the substrate, and are not necessarily directing the fluid spray *toward* the scrubber brush, however they are angled such in a way that the sonicated fluid spray may contact the scrubber brush.

Moinpour et al. disclose an apparatus that cleans the edges of substrates with water jets (see Figures) that are specifically for cleaning the edges of the substrate (Abstract, Column 4 Lines 24-35) and it is stated that the water from the nozzles can carry particles away at a "sufficient pressure" to cause the removal of particles. These nozzles are angled to direct the fluid away from the scrubber brush (see Particularly Figure 3).

It would have been obvious for one of ordinary skill in the art to modify the nozzle of Stephens et al. in order to provide a sonic nozzle, such as Fishkin et al. teach, so that the cleaning solution is minimized, that the nozzle parts last longer, and for an overall better cleaning. Further it would have been obvious for one of ordinary skill in the art to modify the nozzles of Stephens et al. and Fishkin et al. so that the nozzle is angled to direct the fluid spray away from the scrubber brush, as Moinpour et al. demonstrate, in order to specifically clean the edges of a substrate.

Applicants Arguments

3. In the response, Filed 30 March 2004, the Applicant contends that:

Stephens, Fishkin, Redeker, and Konishi, alone or in combination, do not appear to disclose teach or otherwise suggest so angling a sonic nozzle so as to direct sonicated fluid spray away from a scrubber brush.

Response to Arguments

4. Applicant's arguments with respect to claims 1-3 and 6-9 have been considered but are moot in view of the new ground(s) of rejection. Moinpour et al. teach nozzles

that are angled to direct fluid away from a scrubber brush, and delivers cleaning fluids the edge portion of a substrate.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J Warden can be reached on (571) 272-1281. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LCC

21 May 2004

Primary Examiner